

**ABSTRACT**

In a process involving the formation of an insulating film on a substrate for an electronic device, 5 the insulating film is formed on the substrate surface by carrying out two or more steps for regulating the characteristic of the insulating film involved in the process under the same operation principle. The formation of an insulating film having a high level of 10 cleanliness can be realized by carrying out treatment such as cleaning, oxidation, nitriding, and a film thickness reduction while avoiding exposure to the air. Further, carrying out various steps regarding the formation of an insulating film under the same operation principle can 15 realize simplification of the form of an apparatus and can form an insulating film having excellent property with a high efficiency.